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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MARKS, CHRISTINA M

ART UNIT

PAPER NUMBER

3713

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/973,285

Applicant(s)

SHAO, CHIA MU

Examiner

C. Marks

Art Unit

3713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

Figures 1, 2 and 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: On page 1, lines 12, 14, and 15, reference 42 is pointed out. There is no reference sign corresponding to this number in Figure 1. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

The disclosure is objected to because of the following informalities:

On page 5, lines 7-10, Fig. 2 and Fig. 3 should be designated as prior art.

On page 5, line 19, Fig. 8 is a perspective view of the dart of the present invention, not of the dartboard as described.

On page 6, line 3, there is no main body 110 in Fig. 4 as described.

On page 6, line 19, a reference to Fig. 5 should be included, as it appears this is the figure being described.

Appropriate correction is required.

### ***Claim Objections***

Claim 12 and those dependent therefrom are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 is for an apparatus of an electric dart game and though Claim 12 is a method for scoring in the apparatus, Claim 12 is not further limiting the subject matter of Claim 1. Claim 12 is drawn to the method, not the apparatus, and thus does not further limit the claim and is improper.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5, and 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuscone (GB 2086243).

Fuscone discloses an electric dart game comprising a dart (FIG 1), a dartboard provided with a frame with a plurality of scoring areas by a plurality of radial and circumferential spiders arranged crossly (FIGS 2, 7, and 9) with a main body for being shot at by a dart and attached to the frame. Fuscone also discloses an electronic scoring means for displaying signals collected from the scoring areas (FIG 5). The scoring system also uses a plurality of inductance coils (FIG 2, reference 4 and page 1, lines 125-129) connected to the electronic scoring (FIG 5). The dart is

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also made of magnetic substance (page 1, line 75-78 and page 1, line 103). The inductance coils are provided with predetermined shape and are engaged within the scoring areas (FIG 2).

Furthermore, the cross-section of the coils matches and is smaller than the scoring areas (FIG 2).

The frame with the coils is disposed in the back of the main body (Abstract, lines 4-7). The point of the dart is magnetic substance (page 1, line 104). Further the slender shaft is also magnetized (page 1, line 104-106) and the point and slender shaft are integrated and magnetized simultaneously (page 1, lines 104-121). The main body of the dartboard is made of material used on a traditional dart board (page 1, lines 41-45). The magnetization of the dart is used for changing the distribution of the magnetic field of the inductance coil (page 2, lines 20-21).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuscone (GB 2086243).

What Fuscone discloses has been discussed above and is incorporated herein.

Fuscone discloses that the frame provided with the coils is arranged behind that of the main body. Fuscone does not disclose arranging the frame in front of or within the main body. However, absent a showing of criticality, it would have been obvious to one of ordinary skill in the art to dispose the frame in different locations including within the body, as well as in front of the body in order to either provide easier and quicker mounting of the frame if disposed up front or to manufacture the board with the frame integrated to provide a more sturdy device.

Claims 7 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuscone (GB 2086243) in view of Clark (US Patent No. 4,768,789).

What Fuscone discloses has been discussed above and is incorporated herein.

Fuscone does not disclose that when a plurality of coils corresponds to different scoring areas representing the same score, they are wired together before being connected to the scoring means.

However, it is a well-known concept in the art that the motherboard required to run the electronic scoring only has a limited number of inputs. Clark further supports this concept. In describing the motherboard used to control the electronic scoring, Clark states that connections must be connected to the same lines in order for the total number of scoring positions on the dartboard to be accounted for (Column 5, lines 26-29). Therefore, it would have been obvious to one of ordinary skill in the art that in order to limit the number of inputs required, inputs having the same signal should be tied together into the same input line in order to conserve the number

of inputs needed into the motherboard. One would be motivated to do this in order to limit the cost of electronic components required as well as creating a simpler wiring into the motherboard.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**US Patent No. 4,678,194:** Target board with conductive fibers in a plurality of beds wherein a projectile embedded can transmit a signal.

**US Patent No. 3,836,148:** Automatic scoring on a dartboard using magnetic darts wherein sensors are that of magnetic reed sensors to determine the position of the dart.

**US Patent No. 5,209,491:** A dartboard with a target with conductive surfaces to establish the position of the darts therein.

**WO 95/04251:** Electronic detection and location of darts based upon a change detected in the field.

**US Patent No. 6,439,576:** System for detection of darts in a dartboard with a plurality of scoring locations.

**US Patent No. 6,155,570:** Detection and location of darts in a dartboard area where electro magnetic signals are monitored via a conductor to determine the position.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Marks whose telephone number is (703)-305-7497. The examiner can normally be reached on Monday - Friday (7:30AM - 4:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Martin-Wallace can be reached on (703)-308-1148. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9302 for regular communications and (703)-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1148.

*cmm*  
cmm  
February 7, 2003

*Michael O'Neill*

**MICHAEL O'NEILL  
PRIMARY EXAMINER**